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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/942,212	08/29/2001	Osamu Nakamura	FUJM 18.964	6952

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EXAMINER

GAGLIARDI, ALBERT J

ART UNIT	PAPER NUMBER
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2878

DATE MAILED: 06/20/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/942,212

Applicant(s)

NAKAMURA ET AL.

Examiner

Albert J. Gagliardi

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on 29 August 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 August 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities:

On page 7, lines 12-13 the repetition of the identical expressions "housing-shading component" and "housing-shading component" seems inaccurate.

On page 14, lines 7-8, the phrase "summing square of a difference the sum" should be -- summing a square of a difference of the sum--.

Appropriate correction is required.

2. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Objections

3. Claims 3-5 are objected to because of the following informalities:

In claim 3, "summing the square of a difference said sum" should be -- summing the square of a difference of said sum--.

Claims 4-5 are objected to on the basis of their dependency.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claims 1-2 and 8-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cannata *et al.* (US 5,811,808) in view of Tsuchimoto *et al.* (US 5,994,701).

Regarding claim 1, *Cannata* discloses (Fig. 1) an infrared imaging apparatus for carrying out shading correction of an image taking process using a camera head comprising an optical system (18); a plurality of detector elements (10); and a container (inherent) and including a first correction unit for (see generally Fig. 4) for creating corrected sensitivity picture data by correction of shading components caused by the optical system to produce uniform scene components as a result of an image taking process of a uniform scene (col. 10, lines 58-67).

Cannata does not disclose the use of a storage unit for storing a housing response profile or a second correction unit for creating corrected housing shading picture data.

Regarding the storage unit and second correction processor, *Tsuchimoto* discloses (Figs. 3-4) and infrared imaging sensor including a means for creating corrected housing-shading picture data (see generally col. 3, lines 45-48) including at least a storage unit (208) for storing a housing response profile and a correction unit (207) for creating corrected housing-shading picture data. *Tsuchimoto* teaches that the further use of housing-shading correction data allows

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for more accurate imaging (col. 3, lines 55-60). Therefore it would have been obvious to a person of ordinary skill in the art to modify the device disclosed by *Cannata* to further include a storage unit and a second correction unit so as to allow for more accurate imaging to be performed.

Regarding claim 2, *Tsuchimoto* discloses that the shading correction is performed by subtracting the housing component for each of the detectors from the corrected sensitivity picture data (col. 11, lines 27-35).

Regarding the assumptions and finding regarding determining the housing component, the examiner notes that apparatus claims must be structurally distinguishable from the prior art. Claims directed to apparatus must be distinguished from the prior art in terms of structure rather than function. *In re Danly*, 263 F.2d 844, 847, 120 USPQ 528, 531 (CCPA 1959). Apparatus claims cover what a device is, not what a device does. *Hewlett-Packard Co. v. Bausch & Lomb Inc.*, 909 F.2d 1464, 1469, 15 USPQ2d 1525, 1528 (Fed. Cir. 1990). See MPEP 2114. In this case, the particular assumptions and/or findings do not structurally distinguish the apparatus suggested by *Cannata* in view of *Tsuchimoto* from the apparatus as claimed.

Regarding claim 8, the use of a scanning unit and smoothing process for correcting image data is well known in the art (see for example applicants specification at page 8) and would have been a matter of routine design choice depending on the needs of the application.

Regarding claim 9, smoothing units are well known in the art (see for example applicants specification at page 8) and the inclusion thereof together with a third correction unit is considered as a matter of routine design choice depending on the needs of the particular application and the degree of optimization desired

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7. Claims 3-7 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Cannata* and *Tsuchimoto* as applied above, and further in view of *McManus* (US 6,465,785).

Regarding claim 3, although *Cannata* as modified in view of *Tsuchimoto* does not specifically identify that the correction data or constants therefor were determined by computing a constants value that minimizes a total obtained by summing the square of a difference of the sum from corrected sensitivity data, it is noted that a wide variety of functionally equivalent means for calculating correction data are known in the art including a variety of regression techniques (*McManus* for example, discloses that one method of computing correction data and or constants therefor may be by using a regression model applied to collected correction data. Therefore, absent some degree of criticality, the inclusion of a computing means for determining correction data or constants therefor would have been an matter of routine design choice, if not an inherent aspect of the system, in view of the known functionally equivalent arrangement for computing the data by a regression technique.

Regarding claim 4, the housing response profile disclosed by *Tsuchimoto* is data with no physical dimensions

Regarding claim 5, absent some degree of criticality the computing of correction data or constants therefor on the basis of a single detector or a plurality of detectors in a single area is viewed as a matter of routine design choice depending on the needs of the application and the desired degree of optimization of the correction data.

Regarding claim 6, although *Cannata* and *Tsuchimoto* do not specifically disclose the use of third constant and differential data *McManus* further teaches that correction data may be further determined by setting the camera to different temperatures using the data to determine

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more accurate correction data (see generally col. 8, line 53 to col. 9, line 39) Therefore, absent some degree of criticality, the use of means for taking the picture data at different ambient temperatures and utilizing additional constants to determine the correction data would have been an matter of routine design choice in order to produce more accurate correction data.

Regarding claim 7, absent some degree of criticality, the number of different temperatures at which the data is acquired is considered as a matter of routine design choice depending on the needs of the particular application and the degree of optimization desired.

Regarding claim 10, sensitivity correction data characterized as gain and /or offset data is well known. As such, the use of such type of data in determining correction data is considered as a matter of routine design choice depending on the needs of the particular application and the degree of optimization desired.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Albert J. Gagliardi whose telephone number is (703) 305-0417.

The examiner can normally be reached on Monday thru Friday from 9 AM to 5 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David P. Porta can be reached on (703) 308-4852. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9318 for regular communications and (703) 872-9319 for After Final communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.



Albert J. Gagliardi
Examiner
Art Unit 2878

AJG
June 15, 2003